

**Exhibit G**

Expert Notice of Andrew Di Wu

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

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UNITED STATES OF AMERICA : X  
: :  
: S5 22 Cr. 673 (LAK)  
v. : :  
: :  
SAMUEL BANKMAN-FRIED, : :  
: :  
Defendant. : :  
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**EXPERT WITNESS DISCLOSURE**  
**PROFESSOR ANDREW DI WU**

I. Background & Qualifications

1. I am the NBD Bancorp Assistant Professor of Business Administration and Assistant Professor of Technology and Operations at the Stephen M. Ross School of Business, University of Michigan. I am also the Michael R. and Mary Kay Hallman Fellow and the Stein Research Scholar at the University of Michigan. I hold a Ph.D. in Finance from The Wharton School, University of Pennsylvania and a B.A. in Economics and Mathematics from Yale University.
2. From 2019 to 2023, I also served as the founding Faculty Co-Director of the Michigan Ross Fintech Initiative, which acts as a platform bringing together the School's various education, outreach, and student engagement activities related to innovative financial technology (fintech), including but not limited to innovations in blockchain and cryptocurrencies
3. At University of Michigan, I have designed and taught various fintech courses, covering topics including blockchain and cryptocurrencies, digital payment, financing platforms, and the application of machine learning and artificial intelligence in financial investments. My fintech teaching covers a range of academic levels, including undergraduate, MBA, specialty Masters, and PhD. Additionally, I teach a variety of fintech topics, including the technology and business models of blockchain and cryptocurrencies, in executive education programs for clients across different industries.
4. At University of Michigan, I have also designed and launched an online Fintech Specialization program, which is open to learners globally. The program includes four Massive Open Online Courses (MOOCs) available on Coursera (2020-present) and FutureLearn (2020-2022). As of July 2023, the program has enrolled over 125,000 students.

5. I have published research on a variety of topics including natural language processing in business, operational innovation, blockchain tokens, supply chain risk, and corporate social responsibility. My research is published in leading operations and finance journals, including Management Science, Manufacturing & Service Operations Management, the Journal of Financial Economics, the Review of Financial Studies. My research has been featured in articles in media outlets such The Wall Street Journal, The New York Times, The Financial Times, The Hill, etc. I have received multiple research awards such as the BlackRock Applied Research Award, INFORMS Best Paper Award in the Interface of Finance, Operations, and Risk Management, MSOM Responsible Research Award, the POMS Applied Research Award, etc. Wu Appendix A contains my resume including a list of my publications and research whitepapers. I have not testified as an expert at trial or by deposition over the prior four years.
6. I provide referee and editorial services to multiple academic journals in operations and finance, including Management Science, Manufacturing & Service Operations Management, the Journal of Financial Economics, the Review of Financial Studies, Journal of Financial and Quantitative Analysis, Journal of Empirical Finance, and Journal of Financial Markets. I also serve as an ad-hoc Associate Editor for Manufacturing & Service Operations Management.
7. I have no financial interest in the outcome of this case. I am being compensated for my time and services on an hourly basis at the billing rate of \$650 per hour. My compensation in this case is not in any way contingent or based on the opinions presented herein or on the outcome of these legal proceedings.

## II. Scope and Summary of Opinions

If called as a witness, I may testify to the following opinions and issues:

8. Explanation of Blockchain Technology. Background testimony regarding blockchain technology and its key components. Topics covered may include explanations of blockchain as a decentralized, immutable database; the core use cases of blockchain technology; and the roles of various stakeholders in a typical blockchain transaction. This testimony may also address operational aspects of blockchain networks, focusing on data validation and reconciliation mechanisms such as proof-of-work and proof-of-stake.
9. Underlying Technology, Uses, and Functions of Cryptocurrency. Background testimony on the technology behind and the creation, uses, and functions of cryptocurrency coins and tokens, including a discussion of different token types such as utility tokens, non-fungible tokens, and security tokens. This testimony may also address the process of token offerings and sales and their role as fundraising mechanisms for cryptocurrency startups.
10. Business Practices and Valuations Regarding Exchange-Issued Tokens. Background testimony on business practices related to exchange-issued crypto tokens, specifically native utility tokens issued by centralized crypto exchanges. This testimony may

address the role of these exchange tokens, illustrate commonalities in their design and operation, and compare how these tokens are managed across different exchanges.

This testimony may also address the valuation of exchange-issued utility tokens, such as FTT, including the difficulty of isolating an “intrinsic value” for utility tokens due to the often-limited connection between the cryptocurrency ecosystem and sectors of the larger economy, and the inapplicability of standard valuation models such as discounted cash flow (DCF) models. This testimony may also address the impact that investor sentiment can have on token prices and the potential for high volatility in utility token pricing.

11. Cryptocurrency Lending. Background testimony on common practices in the cryptocurrency industry around the making and taking of loans where cryptocurrency is borrowed and/or used as collateral. This testimony may address the size of the crypto-lending industry and the scale of lending over time; industry practices concerning loan collateralization, including the use of digital assets as collateral; the use of historical market prices in valuing digital asset collateral; lender disclosures of their due diligence practices; and common use cases of loaned funds by loan recipients, such as for further trading and investment in cryptocurrencies.
12. Centralized Cryptocurrency Exchanges. Background testimony on the principal operations of centralized cryptocurrency exchanges. This testimony may include a top-down description of how crypto exchanges function, particularly the process of connecting buyers and sellers of fiat currency, spot crypto-assets and derivatives at high volumes; the specific functionalities that facilitate these transactions, such as deposit, order flow, trading, and withdrawal mechanisms; the role of “market makers” on exchanges for ensuring liquidity, particularly in thinly traded digital assets; the nature of exchange ledgers, the nature and use of virtual user account balances (such as FTX “E-Money”), and the crediting and debiting process on these ledgers; the use of omnibus wallets for storing customer digital assets; and the resulting multi-faceted roles that crypto exchanges often assume, such as asset custodian and broker-dealer roles. This testimony may also address the unique risks that emerge from these hybrid roles and that such risks can differ from those encountered on regulated exchanges.

Background testimony on unique complexities in operating centralized cryptocurrency exchanges, particularly those with cross-border operations. Topics addressed may include the challenges in processing transactions in multiple fiat and cryptocurrencies; the need for bank accounts in multiple jurisdictions to handle multiple fiat currencies; and the impact of regulatory uncertainty on centralized cryptocurrency exchanges on their basic operations.

13. Comparison of Business Models and Practices Among Cryptocurrency Exchanges. Background testimony on the business models of and services offered by current and former cryptocurrency exchanges, including the products and services they offer; how these platforms generate revenue; the evolution of their profitability strategies; and their disclosures around exchange operations and risks, as described in their terms of service and publicly available policies. This testimony may include comparing and

contrasting current and former leading cryptocurrency exchanges across these different features and criteria and explaining the commonality of certain business practices among cross-border cryptocurrency exchanges.

Background testimony addressing how rapid technology development, significant competitive pressures, and potentially inconsistent regulatory regimes in the cryptocurrency industry, particularly over the last six years, have created substantial heterogeneity in business models and practices across cryptocurrency exchanges globally. This testimony may address how these factors explain the general absence of standard industry practices or consensus “best practices” for operating cryptocurrency exchanges, as well as how the premium placed on “first mover” advantages has sometimes resulting in rushed development of immature products and services. The testimony covers business practices under the overall market environment.

14. Timeline of the 2019-2022 Boom and Bust of Crypto Markets. Comprehensive timeline of the pandemic-led boom in cryptocurrency markets and valuations over 2019 and 2021 and rapid growth of consumer and investor interest in cryptocurrency trading.

Comprehensive timeline of significant events throughout 2022 that contributed to the unexpected cryptocurrency market meltdown. This testimony may address the responses of different cryptocurrency exchanges in response to these rapidly unfolding events and explain how these events introduced significant uncertainties in the business continuity of many crypto-related entities; and resulted in confusion from many market participants, including cryptocurrency exchanges.

### III. Basis of Opinions

15. My opinions offered herein are based on my own academic and professional education, training, and knowledge regarding blockchain technology, cryptocurrency and the business operations of cryptocurrency exchanges, which I have developed over my academic career and my experience in educating both students and the public on these topics. Additionally, my opinions are based on reviewing publicly available academic literature, public news articles and commentary, publicly available policies and terms of service for cryptocurrency exchanges and operations, and documents filed in this case and other legal proceedings relating to FTX, including:
  - a. S5 22 Cr. 673 (LAK), DOJ superseding indictment
  - b. SEC Civil Action No. 22-cv-10501
  - c. CFTC amended complaint: Case No. 1:22-cv-10503-PKC
  - d. FTX interim report 1 Case No. 22-11068 (JTD)
  - e. FTX interim report 2 Case No. 22-11068 (JTD)
  - f. Other publicly available sources

Respectfully submitted,



A handwritten signature in black ink, appearing to read "Andrew Di Wu, Ph.D.", is positioned above the printed name.

Andrew Di Wu, Ph.D.

# Di (Andrew) Wu

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## Academic Appointment

### **University of Michigan, Stephen M. Ross School of Business**

- NBD Bancorp Assistant Professor of Business Administration, 2022-23
- Assistant Professor of Technology and Operations, 2016-Present
- Faculty Co-Director, Michigan Ross Fintech Initiative, 2019-Present
- Faculty Affiliate, Center on Finance, Law, and Policy, 2019-Present
- Michael R. and Mary Kay Hallman Fellow, 2018-Present
- Stein Research Scholar, 2016-Present

## Education

Ph.D., Finance, The Wharton School, University of Pennsylvania, 2016

B.A., Mathematics and Economics, Yale University, 2007

## Research Fields

FinTech, EdTech, Natural Language Processing (NLP), Operations-Finance Interface, Corporate Social Responsibility

## Residential and Online Teaching

- **Online Education:** Developed and launched Financial Technology (Fintech) Innovation Specialization on Coursera & Futurelearn. 2020-present.
  - Total enrollment: 125,000+
- **Residential:** Developed new residential courses on Fintech Innovations (BBA/MBA/MM), 2018-present; Introduction to Blockchain and Crypto (MSCM), 2022-present; Fintech Research Methods (PhD), 2019; Instructor for Operations Management (MM), 2017.

## Executive Training & Student Action-Based Learning Programs

1. **Fintech** (Payment Systems, Smart Banking/BAAS, Insuretech)
  - Bahrain Chamber of Commerce and Industry, Bahrain
  - Google, Inc., Mountain View, CA
  - Saudi Telecom Company (STC), Riyadh, KSA (Scheduled)
  - Industrial and Commercial Bank of China, Beijing, China
  - Shanghai University of Finance and Economics, Shanghai, China

- Shieldpay, London, UK
- Smart Pension, London, UK

**2. Analytics/Digital Platforms** (Analytics, NLP, Supply Chain Risks/Strategy)

- Amazon, Inc., Seattle, WA
- Boeing, Co., Everett, WA
- Dell, Inc., Austin, TX
- Simudyne, Inc., London, UK
- Target, Co., Minneapolis, MN

### **Publications and Forthcoming Papers**

1. D. Wu. 2023. Text-Based Measure of Supply Chain Risk Exposure. **Management Science**. Forthcoming
2. J. Li, H. Wang, D. Wu. 2023. Mind the Gap: Gender Disparity in EdTech Platform Participation, **Manufacturing & Service Operations Management**, Forthcoming
  - Finalist, INFORMS IBM Best Student Paper Award, 2022
  - Runner-Up, POMS College of Service Operations Management (CSOM) Best Student Paper Award, 2023
3. N. Jain, D. Wu. 2022. Can Global Sourcing Strategy Predict Stock Returns? **Manufacturing & Service Operations Management**. Forthcoming
4. S. Keppler, J. Li, D. Wu. 2021. Crowdfunding the Front Lines: An Empirical Study of Teacher-Driven School Improvement. **Management Science** 68(12) 8809-8828
  - Winner, MSOM Responsible Research Award, 2022
  - Financial Times' Research Impact Award, Finalist, 2022
5. R. Bansal, D. Wu, A. Yaron. 2022. Socially Responsible Investing in Good and Bad Times. **Review of Financial Studies** 35(4) 2067-2099
6. J. Li, D. Wu. 2021. The Price Effect of Drug Price Ceilings: Intended and Unintended Consequences. **Management Science** 68(8) 5758-5777
7. A. Anupindi, J. Li, Y. Wang, D. Wu. 2021. When Ignorance Is Not Bliss: An Empirical Analysis of Subtier Supply Network Structure on Firm Risk. **Management Science** 67(4) 1993-2656
  - Winner, MSOM iFORM SIG Best Paper Award, 2022
  - Finalist, POMS Supply Chain Management Student Paper Competition, 2016
  - Finalist, INFORMS MSOM Student Paper Competition, 2017
8. J. Li, D. Wu. 2020. Do Corporate Social Responsibility Engagements Lead to Real Environmental, Social, and Governance Impact? **Management Science** 66(6) 2291-2799

9. N. Jegadeesh, D. Wu. 2013. Word Power: A New Approach for Content Analysis. **Journal of Financial Economics** 110(3) 712-729
- Citation count: 505 as of April 2023

### Papers Under Revision and Review

10. C. Kwon, D. Wu. 2022. Disclosure-Driven Social Engagement in Supply Chains, Major Revision, **Manufacturing & Service Operations Management**
- Winner, POMS College of Sustainable Operations Best Student Paper Award, 2021
11. J. Silberholtz, D. Wu. 2022. Measuring Utility and Speculation in Blockchain Tokens, Under Revision, **Management Science**
12. S. Keppler, J. Li, D. Wu. 2022. Retaining Innovative Workers: An Empirical Study of Education Crowdfunding, Under Review, **Manufacturing & Service Operations Management**
- Winner, POMS Applied Research Challenge, 2022

### Current Working Papers

13. G. Chen, Z. Wang, D. Wu. 2023. From Red Tape to RegTech: How Do Online Platforms Facilitate International Trade?
- Michigan Ross China Initiative Research Award, 2022
14. Y. Ma, J. Li, D. Wu. 2023. Health on Loan: The Effect of Local Credit Availability on Hospital (Re)Admissions
15. H. Cho, D. Beil, D. Wu. 2023. Does Business Leaders' Operational Experience Generate Firm Operational Performance?
16. C. Chen, N. Jain, X. Liang, D. Wu. 2022. Trade Credit and Horizontal Competition

### Honors, Grants and Awards

- POMS College of Service Management (CSOM) Best Student Paper Award, Runner-Up, 2023
- iFORM SIG Best Paper Award, Winner, 2022
- INFORMS IBM Best Student Paper Award, Finalist, 2022
- MSOM Responsible Research Award, Winner, 2022
- POMS Applied Research Challenge, Winner, 2022
- Michigan Ross DEI Research Award, Winner, 2022
- Financial Times' Research Impact Award, Finalist, 2022
- Michigan Ross China Research Award, 2022

POMS College of Sustainable Operations Best Student Paper Award (First Place), 2021  
Best Discussant Award, Crypto and Blockchain Economics Research (CBER) Conference  
Ripple University Alliance Research Funding (\$25,000), 2019  
BlackRock Applied Research Award (\$25,000), 2016  
Olin WFA-CFAR Dissertation Award in Honor of Professor Stuart I. Greenbaum, 2015  
National Science Foundation Award #1547987 (\$177,030, with Jun Li and Ravi Anupindi), 2015-2017  
The Rodney L. White Center for Financial Research Grant (two grants \$12,000 total), 2014, 2015  
IRRC/Millstein Center for Global Markets and Corporate Ownership Research Grant (\$10,000, with Itay Goldstein), Columbia University, 2013  
Miller, Anderson & Sherrerd Graduate Fellowship (Best performance in the PhD qualifying exam), 2012

## Selected Media Articles and Coverage

"Confused about crypto?" Capitol Confidential, 2022  
"Is cash still king? America could be getting closer to a digital dollar, experts say", WXYZ Detroit, 2022  
"Crypto currencies, explained by an expert", NPR, 2022  
"Providing capital with new technology", Michigan Impact Studio Podcast Series, 2022  
"Charles Best Knows What Teachers Need", *The Wall Street Journal*, 2021  
"Credit Cards and Foreign Transaction Fees: Ask the Experts", *WalletHub*, 2021  
"Would you pay £47,000 for an Mbappe digital trading card? Inside the unstoppable rise of NFTs", *Goal.com*, 2021  
"Legacy Banks Are Fighting Back Against the Monzo Insurrection", *Wired*, 2019  
"Ohio Bitcoin Tax Gimmick is Like Paying with Beanie Babies", *Detroit Free Press*, 2018  
"Bitcoin Buyers: Proceed with Extreme Caution", *The Hill*, 2018  
"How Short-term Profits Compete With Corporate Responsibility", *Ross Thought in Action*, 2017  
"Public Companies Have Difficulties Assuming Social Responsibility", *Top of Minds with Julia Rose*, 2017  
"Waging War on Wages", *The New York Times*, 2012.

**Invited Presentations, Seminars, Discussions and Speeches**

Oxford Annual Reputation Symposium, 2023  
The Wharton School, University of Pennsylvania, 2023  
INFORMS Manufacturing and Service Operations Management Conference, 2023  
MIT Sloan School of Management, 2023  
Southern Methodist University, Cox School of Business, 2023  
Case Western Reserve University, Weatherhead School of Business, 2023  
Georgetown University, McDonough School of Business, 2022  
University of Wisconsin, Wisconsin School of Business, 2022  
MSOM iFORM Special Interest Group Conference, 2022  
Boston College, Carroll School of Management, 2022  
University of Chicago, Booth School of Business, 2022  
New York University, Leonard N. Stern School of Business, 2022  
Cornell University, Samuel Curtis Johnson Graduate School of Management, 2022  
Crypto and Blockchain Economics Research (CBER) Conference, 2021  
Yale School of Management, 2021  
London Business School, 2021  
Duke University, Fuqua School of Business, 2021  
Wharton Workshop on Empirical Research in Operations Management, 2020  
Arrowstreet Capital, 2020  
MFA Annual Meeting, 2020  
INFORMS Annual Conference, 2019  
WFA Annual Meeting, 2019  
APEX Influencer Roundtable, 2019  
National Science Foundation SAMSI Blockchain Workshop, 2019  
Northwestern University, Kellogg School of Management, 2017  
University of Colorado Boulder, Leeds School of Business, 2017  
Boeing Center Research Conference on Supply Chain Finance and Risk Management, 2017  
JOIM Fintech Conference, 2017  
Chicago Quantitative Alliance Spring Conference, 2016

JOIM Conference on ESG Risks, 2016  
Texas A&M University, Mays Business School, 2016  
Boston College, Carroll School of Management, 2016  
University of Chicago, Booth School of Business, 2016  
Emory University, Goizueta Business School, 2016  
MIT Sloan School of Management, 2016  
University of Southern California, Marshall School of Business, 2016  
University of Notre Dame, Mendoza College of Business, 2016  
Michigan State University, Eli Broad College of Business, 2016  
Washington University in St. Louis, Olin Business School, 2016  
Ohio State University, Fisher College of Business, 2016  
Federal Reserve Bank of Atlanta, 2016  
Columbia University/IRRC Investor Responsibility Research Center, 2014

## Referee and Other Professional Experience

**Referee Service:** *Management Science, Manufacturing & Service Operations Management, Review of Financial Studies, Journal of Financial and Quantitative Analysis, Journal of Empirical Finance, Journal of Financial Markets*

**Ad-Hoc Associate Editor:** *Manufacturing & Service Operations Management*, 2022-Present

**Academic Community:** Chair, INFORMS MSOM Society, Special Interest Group on Interface of Finance, Operations, and Risk Management (iFORM), 2022-Present

**PhD Supervision:** Hyungchan Cho (Michigan)

**DEI/Mentorship:** Blockchain Curriculum Development Institute for Historically Black Colleges and Universities (HBCU), Morgan State University

## Personal Information

Married with two children; Citizenship: USA

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Last updated: July 2023